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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,545	12/10/2004	Hassan S Niknafs	FLCZ 2 00362-3 (H-4219C)	5665
58134	7590	11/02/2006	EXAMINER	
SAINT-GOBAIN CORPORATION P.O. BOX 15008 ONE NEW BOND STREET, INTELLECTUAL PROPERTY DEPART. WORCESTER, MA 01615-0008			BUSHEY, CHARLES S	
			ART UNIT	PAPER NUMBER
			1724	

DATE MAILED: 11/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/517,545	NIKNAFS ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Scott Bushey	1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 25 September 2006.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 15,27 and 28 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-14, 16-26, 29 and 30 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date 12-10-04.
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of Group I, and Species B in the reply filed on September 25, 2006 is acknowledged. Accordingly, claims 1-14, 16-26, 29, and 30 have been examined herein, while claims 15, 27, and 28 are withdrawn from further consideration.
2. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Specification***

3. The disclosure is objected to because of the following informalities: The paragraph added to page 1 of the specification pertaining to the continuity data should be updated to indicate that parent application 10/167,893 is now abandoned.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 1-14, and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 1, a term, such as "having" or "comprising" should be inserted after element, so that the claim makes sense.

In claim 6, the last line of the claim does not make sense.

In claim 13, it is unclear as to whether applicant intends to define the height to width ratio of the element or the height to length ratio of the element.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-5, 8-11, 13, 14, 16-19, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niknafs et al '423 taken together with Lex, Jr. et al.

Niknafs et al (Figs. 3 and 4; col. 2, lines 24-26; col. 3, line 6) substantially disclose applicant's invention as recited by instant claims 1-5, 8-11, 13, 14, 16-19, and

30, except for the specific recitations of the claimed length to width, width to height or height to length ratios, the percentages of open area of the elements, the specific number of openings as recited by certain claims and the kidney-bean shaped passageways through the element. The cited Figures of Niknafs et al '423 would suggest or render obvious to one having ordinary skill in the art the specifically claimed dimensional ratios of the element as claimed in the instant application. Furthermore, the element as taught by Niknafs et al '423 clearly discloses the pair of concave external surfaces at the ends of the height and width axes of the element, the concave surfaces being connected by convex surfaces. The reference elements also present a large percentage of open area relative to the total cross-sectional area of the element, thereby rendering the claimed percentage ranges of open area obvious to one having ordinary skill in the art at the time of the invention. Niknafs et al '423 also clearly discloses a plurality of through passages through the element in the length dimension.

See Fig. 4.

Lex, Jr. et al (Fig. 1) clearly disclose a packing element similar in construction to that of Niknafs et al '423, wherein three distinct passages extend through the element along the length dimension, two of the passageways being in the form of kidney-bean shaped openings, each having two generally parallel arcuate surfaces. It would have been obvious for an artisan at the time of the invention, to modify the through passage number and shape within the element as taught by Niknafs et al '423, in view of Lex, Jr. et al, since such would provide a large percentage of open area, thereby reducing pressure drop associated with the packing, as well as providing a packing that is

resistant to deformation and breakage through the use of the well known strength characteristics of the arch shape within the kidney bean shaped openings.

9. Claims 20-26, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niknafs et al '423 taken together with GB 255,770.

Niknafs et al (Figs. 3 and 4; col. 2, lines 24-26; col. 3, line 6) substantially disclose applicant's invention as recited by instant claims 20-26, and 29, except for the specific recitations of the claimed length to width, width to height ratios, the percentages of open area of the elements, and the specific number of openings as recited by certain claims. The cited Figures of Niknafs et al '423 would suggest or render obvious to one having ordinary skill in the art the specifically claimed dimensional ratios of the element as claimed in the instant application. Furthermore, the element as taught by Niknafs et al '423 clearly discloses the pair of concave external surfaces at the ends of the height and width axes of the element, the concave surfaces being connected by convex surfaces. The reference elements also present a large percentage of open area relative to the total cross-sectional area of the element, thereby rendering the claimed percentage ranges of open area obvious to one having ordinary skill in the art at the time of the invention. Niknafs et al '423 also clearly discloses a plurality of through passages through the element in the length dimension. See Fig. 4.

GB 255,770 (Figs. 1 and 2) disclose a packing element similar to that of Niknafs et al '423, wherein the element includes seven discrete through passages along the length dimension of the element, one of the passages being arranged along the central axis of the element. It would have been obvious for an artisan at the time of the

invention, to modify the element as taught by Niknafs et al '423, to include seven discrete passageways, one being preferably arranged along the axis of the element, in view of GB 255,770, since such would provide more surface area for contact between the phases while maintaining a low pressure drop within the column using the packing by virtue of the larger number of openings through the element.

10. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over the reference combination as applied to claims 1-5, 8-11, 13, 14, 16-19, and 30 above, and further in view of GB 255,770.

All of the references have been discussed and applied above. GB 255,770 specifically teaches using a plurality of identically sized round passageways through the element thereof. It would have been obvious for an artisan at the time of the invention, to modify the element as suggested by the reference combination as applied to claims 1-5, 8-11, 13, 14, 16-19, and 30 above, to include multiple round passageways therethrough, in view of GB 255,770, since such would be easier and thus less expensive to manufacture than an element having multiple passageways of various dimensions.

#### ***Allowable Subject Matter***

11. Claim 12 would be allowable if rewritten to overcome the rejections under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

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12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Bushey whose telephone number is 571 272-1153. The examiner can normally be reached on M-Th 6:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Scott Bushey  
Primary Examiner  
Art Unit 1724

csb  
10-23-06



10-23-06